# The Efficacy of Monolingual and Bilingual Treatments on Bilinguals with Aphasia

Amy Munekata, B.A., Kevin Yu, B.A., Thomas Christensen, B.A.

## Introduction

The United States population is becoming more and more bilingual. In 2013, the Census Bureau reported that about twenty percent of the population over the age of five spoke a language other than English at home. Recently ASHA reported that only six percent of its members speak a second language well enough to practice bilingually (2016). With such a vast discrepancy between population and service providers, the need for effective bilingual treatment strategies is vast. This paper focuses on the treatments available to the bilingual population with aphasia.

**Figure 1.** Flowchart of the Systematic Review

**Clinical Question**

Which is more effective for bilinguals with aphasia, bilingual or monolingual treatment?

**Keyword Search**

(treatment OR therapy OR intervention) AND (bilingual* OR multilingual*) AND (aphasia OR aphasic)

**Search of 3 electronic databases**

| CINHAL | PsychInfo | PubMed |
|---|---|---|
| 34 results | 82 results | 76 results |

**Abstract review**

| CINHAL | PsychInfo | PubMed |
|---|---|---|
| 8 | 9 | 7 |

**Appraisal of full text**

| CINHAL | PsychInfo | PubMed |
|---|---|---|
| 3 | 3 | 2 |

**Used in systematic review**

| CINHAL | PsychInfo | PubMed |
|---|---|---|
| 3 | 2 | 0 |

## Methods

After creating a clinical question and a keyword search string (Figure 1), CINHAL, PsychInfo, and PubMed were searched for pertinent articles. 192 results were reviewed, but only 24 met the inclusion/exclusion criteria (Table 1). The abstracts of all 24 articles were double reviewed. Inter-rater reliability was 70.8% (Table 2). Full appraisals were done for eight articles. Five were deemed eligible for inclusion in this systematic review. None were considered to be of high quality.

**Table 1.** Inclusion and Exclusion Criteria

| Inclusion Criteria | Exclusion Criteria |
|---|---|
| • Randomized control trials<br>• Experimental designs<br>• Systematic reviews<br>• Includes treatment/intervention<br>• Case series<br>• Single-subject designs with more than one participant | • Single participant studies<br>• Articles older than 10 years<br>• Narrative Reviews |

## Results

After appraisal, it was determined that the studies lacked conclusive evidence of treatment effect. Four of the studies examined only monolingual therapy in the participants' L2. The search yielded no studies that directly compared bilingual therapy to monolingual therapy. The five studies' effects were equivocal, which highlights the need for more high-quality research. Various issues such as the influence of dominant languages, the lack of diversity within studies, and the value of cross-linguistic transfer have been raised for discussion.

**Table 3.** A Summary of the Reviewed Articles

| Article | Type | Treatment | Number of Participants | Languages Spoken | Age of Participants | Months Post Onset | Cross-linguistic Transfer? |
|---|---|---|---|---|---|---|---|
| **Croft (2011)** | Case Series | Monolingual | 5 | English & Bengali | $\bar{x}$ = 43<br>Range = 17-52 | $\bar{x}$ = 20.6<br>Range: 7-41 | Yes |
| **Edmonds (2006)** | Single subject experimental | Monolingual | 3 | English & Spanish | $\bar{x}$ =54<br>Range: 53-56 | $\bar{x}$=8.6<br>Range: 8-9 | Yes |
| **Faroqi-Shah (2010)** | Systematic review | Varied across studies | 46<br>(across 14 studies) | Varied across studies | $\bar{x}$ = 55.7<br>Range: 21 - 80 | --- | Inconclusive |
| **Kiran (2010)** | Single subject experimental | Monolingual | 4 | English & Spanish; English & French | $\bar{x}$ = 64.25<br>Range: 55-87 | --- | Inconclusive |
| **Kiran (2013)** | Single subject experimental | Monolingual | 17 | English &Spanish | $\bar{x}$ = 58.8<br>Range: 37 - 88 | $\bar{X}$ = 27.8<br>Range: 3.5 - 173 | Inconclusive |

## Conclusion

This systematic review shows a lack of quality research in the field of bilingual aphasia, specifically comparing bilingual and monolingual treatments. We were unable to compare monolingual and bilingual treatments, mainly due to the lack of bilingual treatment research. However, there is some evidence of cross-linguistic transfer. The population of bilinguals with aphasia varies in terms of age of acquisition, dominant language, language proficiency, aphasia symptoms, etc. contributing to the difficulty in comparison. More research, is needed involving larger sample sizes, consistent application of treatment, and inter-study comparable outcomes. The lack of effect sizes leaves clinicians without direction to determine best practices.

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